

## **ABSTRACT**

### **ANTENNA SYSTEM**

An antenna system including a coverage antenna (2) with a coverage beam pattern; and an auxiliary antenna (3) with an auxiliary beam pattern. The auxiliary beam pattern is arranged to perform sidelobe suppression, null steering, null addition, or null-fill. In the case where the auxiliary antenna is used to perform sidelobe suppression, the auxiliary beam pattern has a mainlobe with: an amplitude lower than an amplitude of a mainlobe of said coverage beam pattern; a width lower than a width of said mainlobe of said coverage beam pattern; a phase different to a phase of a sidelobe of said coverage beam pattern; and a direction which is selected so as to at least partially suppress said sidelobe.